ECO 249 Statistics as Applied to Economics
Department of Economics, Queens College
City University of New York

Spring 2003
Instructor: Kazuhisa Matsuda
Office: Temp. II, Room 105
Office Hour: Tuesdays & Fridays 12:00 – 1:00 pm (No appointment needed)
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Class Schedule

Section/Code	Days & Time	Room
8TA3A	Tue/Fri 8:00 – 9:45 am	KG 202
11TAA	Tue/Fri 10:00 – 11:45 am	KG 202

Course Objectives and Outlines:

This course is designed as an introductory business statistics course for economics, business, and accounting majors. No prior knowledge of statistics is required as long as the student satisfies the math prerequisite. Emphasis is equally on both the fundamental concepts of statistics and applications. The eventual goal of studying statistics after acquiring the fundamental concepts is obviously to develop the ability to apply it to the case studies. In this course, students are required to solve numerous application problems using mostly Excel following the three important steps:

Step 1: Identify the correct method to use.
Step 2: Compute the numbers (statistics).
Step 3: Interpret the statistics correctly.

During the lab hour, I will provide step-by-step instructions of how to use Excel for some specific purposes. My goal is to make students experience the fun of statistics which is much more than some mathematical formula to remember. The course is outlined as follows:

1) **WHAT IS STATISTICS?** Key Statistical Concepts. Statistical Applications in Business. Statistics and the Computer.
2) **Graphical Descriptive Techniques.** Types of Data and Information. Graphical Techniques for Interval Data. Graphical Techniques for Nominal Data. Describing the Relationship Between Two Variables. Describing Time-Series Data.
3) **Numerical Descriptive Techniques.** Measures of Central Location. Measures of Variability. Interpreting Standard Deviation. Measures of Association.
4) **Data Collection and Sampling.** Methods of Collecting Data. Sampling. Sampling Plans. Sampling and Non-sampling Errors.

5) **Probability.** Assigning Probability to Events. Joint, Marginal, and Conditional Probability. Probability Rules and Trees. Bayes' Law. Identifying the Correct Method.
6) **Random Variables and Discrete Probability Distributions.** Random Variables and Probability Distributions. Describing the Population / Probability Distribution. Bivariate Distributions. Binomial Distribution. Poisson Distribution.
7) **Continuous Probability Distributions.** Probability Density Functions. Normal Distribution. Other Continuous Distributions.
8) **Sampling Distributions.** Sampling Distribution of the Mean. Creating the Sampling Distribution by Computer Simulation.
9) **Introduction to Estimation.** Concepts of Estimation. Estimating the Population Mean When the Population Standard Deviation Is Known. Simulation Experiments.
10) **Introduction to Hypothesis Testing.** Concepts of Hypothesis Testing. Testing the Population Mean When the Population Standard Deviation Is Known. Calculating the Probability of a Type II Error.
11) **Inference about the Description of a Single Population.** Inference about a Population Mean When the Population Standard Deviation Is Unknown.
12) **Inference About Comparing Two Populations.** Inference about the Difference Between Two Means.

*These are just plans. These plans may change.

Required Text:

Title: Statistics for Management and Economics (with Info Trac), 6th Edition
Author: Gerald Keller & Brian Warrack
Publisher: Thomson
ISBN: 0-534-39186-9
Matsuda's comment: 6th Edition is fine, too.

Course Web Site:

http://www.maxmatsuda.com   You can get everything you need (handouts and this syllabus) and much more at my website.

Course Grades:

You will have one mid-term exam and one final exam. You will also have Excel assignments for each chapter of the textbook during the course of the semester.

Grade Component

	Date	Marks	Weight	Length	Cumulative
Midterm Exam	3/25 Tuesday	100	40%	105 minutes	No
Final Exam	TBA	100	40%	120 minutes	No
Excel Assignments			20%		

Grading system is based on the relative scale, not on the absolute scale. You will be compared to the class mean.

   I expect regular class attendance and participation throughout the semester.
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   The date of final exam is to be announced by the economics department later.

Make-up Exam Policy:

Make-up exams will be allowed only in extenuating circumstances. Every effort should be made to take the test as scheduled. All make-ups must have the instructor's approval.

Prereq:

MATH 131 or equivalent MATH 141, 142, 143, 151, 152

Course Policy:

1. Study hard.
2. Have lots of fun.
3. Play honest.